California Energy Commission

STAFF REPORT

LOCALIZED HEALTH IMPACTS REPORT

Addendum 1 for a Selected Project Awarded Funding Through the Alternative and Renewable Fuel and Vehicle Technology Program Under Solicitation GFO-15-606 – Community-Scale and Commercial-Scale Advanced Biofuels Production Facilities

California Energy Commission

Edmund G. Brown Jr., Governor

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ABSTRACT

Assembly Bill 118 (Núñez, Chapter 750, Statutes of 2007) created the Alternative and Renewable Fuel and Vehicle Technology Program (ARFVTP). This statute, amended by Assembly Bill 109 (Núñez, Chapter 313, Statutes of 2008), authorizes the California Energy Commission to "develop and deploy innovative technologies that transform California's fuel and vehicle types to help attain the state's climate change policies." Assembly Bill 8 (Perea, Chapter 401, Statutes of 2013) reauthorizes the ARFVTP through January 1, 2024.

AB 118 also directs the California Air Resources Board to develop guidelines to ensure air quality improvements. The Board's Air Quality Improvement Program Guidelines, approved in 2008, are published in the *California Code of Regulations, Title 13, Motor Vehicles, Chapter 8.1, AB 118 Air Quality Guidelines for the Alternative and Renewable Fuel and Vehicle Technology Program and the AQIP*. The Guidelines require the California Energy Commission, as the funding agency, to analyze the localized health impacts of ARFVTP-funded projects that require a permit (13 CCR § 2343). As provided by 13 CCR § 2343, this Localized Health Impacts Report is required to be available for public comment for 30 days prior to the approval of projects.

This report analyzes the combined impacts in the communities, including exposure to air contaminants or localized air contaminants, or both. These impacts include, but are not limited to, communities of minority populations or low-income populations as declared by the community-scale and commercial-scale advanced biofuels production facility proposer or as determined by Energy Commission staff. Appendix A, Localized Health Impacts Report Assessment Method, describes the analysis used for this Localized Health Impacts Report.

Keywords: Air pollution**,** air quality, Air Quality Improvement Program, Alternative and Renewable Fuel and Vehicle Technology Program (ARFVTP), California Air Resources Board, Assembly Bill 118, California Environmental Quality Act, criteria emissions, demographics, environmental justice indicators, Environmental Justice Screening Method, localized health impacts

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TABLE OF CONTENTS

LIST OF TABLES

EXECUTIVE SUMMARY

Under the *California Code of Regulations Title 13, (CCR § 2343),* this Localized Health Impacts Report describes the alternative fuel demonstration projects proposed for Alternative and Renewable Fuel and Vehicle Technology Program (ARFVTP) funding that may or may not require a conditional or discretionary permit or environmental review such as conditional use permits, air quality permits, wastewater permits, hazardous waste disposal permits, and other land-use entitlements. This report does not include projects that require only residential building permits, mechanical/electrical permits, or fire/workplace safety permits, as these are determined to have no likely impact on the environment.

The California Energy Commission is required to assess the localized health impacts of the projects proposed for ARFVTP funding. This report focuses on the potential impacts a project may or may not have on a particular community, particularly those communities that are considered especially vulnerable to emissions increases. For high-risk communities, this report assesses the impacts from criteria emissions/air toxics and the air quality attainment status.

Environmental justice is defined under *California Code, Government Code* (*GOV § 65040.12)* as the fair treatment of people of all races, cultures, and incomes with respect to the development, adoption, implementation, and enforcement of environmental laws, regulations and policies. Environmental justice communities, which may include low-income communities and minority communities are considered to be the most impacted by any project that could result in increased criteria and toxic air pollutants within an area because these communities typically have the most significant exposure to the emissions. Assessing projects and the communities surrounding them is important because of the health risks associated with these pollutants. Preventing health issues from air pollution in any community is important, but it is especially important to minimize any negative impacts in communities that are already considered to be at risk due to their continued exposure to these contaminants.

The California Energy Commission proposes to fund one additional biofuel production facility under grant solicitation GFO-15-606, which will convert methane from waste organic matter to renewable natural gas for the use in the transportation sector.

The project in this report is assessed for potential health impacts for the community in which it will be located. Based on this analysis, it is not anticipated that implementing this project will have negative impacts because there will not be a net increase in criteria and toxic emissions, specifically to those considered most vulnerable. Potentially, the project stands to provide improved quality of life through cleaner air.

CHAPTER 1:
Projects Proposed for Funding

On July 15, 2016, the California Energy Commission released a competitive grant funding opportunity titled "Community-Scale and Commercial-Scale Advanced Biofuels Production Facilities" (GFO-15-606) under the Alternative and Renewable Fuel and Vehicle Technology Program (ARFVTP). This grant opportunity was an offer to fund low-carbon biofuel production projects at new and existing biofuel production facilities.

On February 17, 2017, the Energy Commission posted the notice of proposed awards (NOPA) for GFO-15-606, resulting in five community-scale and six commercial-scale advanced biofuels production facilities proposed for funding.

On December 7, 2017, the Energy Commission released a second NOPA that provided one additional proposed project recommended for funding under the community-scale advanced biofuels production facility category. This Localized Health Impacts Report assesses and reports on the potential localized health impacts of the proposed project with public review and comment for a 30-day period.

This chapter summarizes the project proposed for Energy Commission funding. Table 1 provides the applicant, project name, project address, and environmental justice (EJ) indicators. (See Appendix A.)

Table 1: Proposed Project for a Community-Scale Advanced Biofuels Production Facility With Environmental Justice Indicators

Community-Scale Advanced Biofuels Production Facility			
Applicant	**Project Name**	**Project Address**	**EJ Indicator(s)**
Monterey Regional Waste Management District	Monterey Regional Waste Management Landfill Gas to Renewable Transportation Fuel Project	14201 Del Monte Boulevard Marina, California 93933-1670	Poverty

Source: California Energy Commission staff

CHAPTER 2: Community-Scale Advanced Biofuels Production Facility

Monterey Regional Waste Management Landfill Gas to Renewable Transportation Fuel Project

Located in Marina, California, the Monterey Peninsula Landfill (MPL) is a 315-acre nonhazardous municipal solid waste landfill, permitted to accept 3,500 tons per day. Monterey Regional Waste Management District (MRWMD) collects approximately 300,000 tons annually and is limited to serving no more than 2,000 trips per day of incoming refuse. The MPL produces approximately 1,333 standard cubic feet per minute (SCFM) of landfill gas (LFG) from the active refuse filling airspace and approximately 60 standard cubic feet per minute of biogas from the anaerobic digestion (AD) composting system. LFG produced at MPL is approximately 50 percent methane or biogas, produced during the bacterial decomposition of organic matter contained within the waste stored in the landfill. The focus of this project will be to utilize biogas collected from the AD system, which will produce renewable natural gas (RNG) with the lowest carbon intensity (CI). An additional component of this project will be to investigate existing wells and new wells planned to collect the highest quality LFG that the landfill is producing.

This project will focus on capturing high quality methane or biogas from decomposing organic material to convert and condition into RNG for use in the MRWMD fleet. This focus will have a three-pronged approach, which will include the AD composting system, the LFG wells, and the Monterey Regional Water Pollution Control Agency located 0.75 miles from the project site at MPL. The project will first capture biogas generated from the AD composting system, given this system allows MRWMD to divert more organic matter from the landfill to meet state requirements and regulations, producing higher quality methane for RNG production and fuel with the lowest CI. Second, the project will collect LFG from existing and planned new wells. Considering the process of decomposition at the landfill and the factors described above that contribute to the composition of biogas, organic waste within the MPL footprint is expected to continue producing a sustainable source of methane over the long-term. The third approach involves MRWMD investigating options for increasing the organics diversion to meet the 75 percent diversion goal established within California. This may include expansion of the current AD facility, installation of a newer larger facility, or utilization of biogas from the "wet" digesters that process organic waste matter, from the nearby publicly-owned treatment works facility at MPL. This third approach is not part of this project's scope; however, it will serve as an additional supply of methane for future RNG production to meet future demand for renewable transportation fuel for the region.

According to MRWMD, the project is anticipated to result in an annual carbon displacement of 6,355 metric tons of carbon dioxide equivalent a year in the near-term and is also anticipated to

result in 520,785 diesel gallon equivalent or renewable natural gas produced annually displacing an equivalent amount of petroleum diesel in the Monterey region.

MRWMD states that public education and outreach programs are conducted on a regular basis at the MPL and this project will be part of these programs. MRWMD will host tours of the project for schools and public interest groups, participate in events off site to promote the project, host weekend Compost and Greener Garden workshops to promote the site's AD composting system to encourage organic waste diversion, and promote commercial recycling and food scrap diversion at the site and work with local and regional businesses .

CHAPTER 3: Approach

Under the *California Code of Regulations Title 13, (CCR § 2343),* this Localized Health Impacts Report (LHI Report) describes the alternative fuel demonstration projects proposed for ARFVTP funding that may or may not require a conditional or discretionary permit, or environmental review, such as conditional use permits, air quality permits, wastewater permits, hazardous waste disposal permits, and other land-use entitlements. This report does not include projects that require only residential building permits, mechanical/electrical permits, or fire/workplace safety permits, as these are determined to have no likely impact on the environment.

For this LHI Report, the Commission interprets "permits" to suggest discretionary and conditional use permits because they require a review of potential impacts to a community and the environment before issuance. Since ministerial-level permits, such as building permits, do not assess public health-related pollutants, the Energy Commission staff does not assess projects requiring only ministerial- level permits in this report.

The LHI Report Assessment Method in Appendix A assesses communities potentially impacted by air pollution and possibly benefitted by an advanced biofuels production facility project. The California Air Resources Board's (CARB) *Proposed Screening Method for Low-Income Communities Highly Impacted by Air Pollution for Assembly Bill (AB) 32 Assessments* is also used to integrate data to identify low-income communities that are highly impacted by air pollution.[1] Other resources used in this assessment are the *California Infrastructure State Implementation Plans,*[2] which contain publicly noticed air quality attainment plans, and the *Green Book Nonattainment Areas for Criteria Pollutants.*[3]

The city where the project will be located is in a nonattainment-transitional zone for ozone, an attainment zone for PM[4] 2.5, and a nonattainment zone for PM 10. Table 1 shows the EJ indicators for the project, that is, minority populations, low incomes, and highly sensitive groups based on age (individuals younger than 5 years of age and older than 65 years of age). Table 2 shows the demographics. Marina, according to the Environmental Justice Screening Method (EJSM), is not classified as high-risk.

A location assessment shows there are no schools, day care centers, or medical/hospitals within one mile of the proposed project.

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1 California Air Resources Board, *Proposed Screening Method for Low-Income Communities Highly Impacted by Air Pollution, 2010* (Sacramento, California).
2 http://www.arb.ca.gov/planning/sip/sip.htm.
3 http://www.epa.gov/oaqps001/greenbk.
4 "Particulate matter" is unburned fuel particles that form smoke or soot and stick to lung tissue when inhaled, and is a chief component of exhaust emissions from heavy-duty diesel engines.

Staff collected information about predicted emissions for the project proposal. Activities conducted are not expected to have significant impact on emissions. If funded, the proposed project would increase low-carbon biofuel production, resulting in better air quality, reductions in greenhouse gas emissions, and displaced petroleum fuel demand.

Table 2: Environmental Justice (EJ) Indicators Compared With California

The yellow highlighted area indicates numbers (percentages) that meet the definition for EJ indicators.

	Number of EJ Indicators by Category	Below Poverty Level (2012-2016)	Black Persons (2010)	American Indian and/or Alaska Native (2010)	Asian and/or Pacific Islander (2010)	Persons of Hispanic or Latino Origin (2010)	Persons Under 5 Years of Age (2010)	Persons Over 65 Years of Age (2010)	Unemployment Rate (October 2017)
California		**16.4%**	**6.2%**	**1.0%**	**13.0%**	**37.6%**	**6.8%**	**11.4%**	**4.9%**
EJ Indicator Threshold		**>16.4%**	**>30%**	**>30%**	**>30%**	**>30%**	**>8.16%**	**>13.8%**	**>4.9%**
Marina	1	17.8%	7.8%	0.8%	18.6%	26.7%	6.6%	10.3%	3.4%

Sources: Unemployment information from the State of California, Employee Development Department Labor Market Information Div.: http://www.labormarketinfo.edd.ca.gov/data/unemployment-and-labor-force.html#Tool and http://www.labormarketinfo.edd.ca.gov/data/labor-force-and-unemployment-for-cities-and-census-areas.html.

U.S. Census Bureau, http://www.census.gov/quickfacts/table/PST045215/0664000,06,00 and http://factfinder.census.gov/faces/nav/jsf/pages/community_facts.xhtml.

CHAPTER 4:
Summary

If funded, this proposed project would result in new or existing biofuel production, which would help achieve both energy and climate change goals. Based on the review of the proposed project in this report, it is not anticipated that implementing the proposed project would have negative impacts on the surrounding community because a net increase in criteria and toxic emissions will not result. The site will increase production of alternative and renewable transportation fuels in California. As more alternative and renewable transportation fuels enter the market and begin to displace gasoline and diesel demand, tailpipe pollutants will decrease significantly. A net benefit is realized from less petroleum use and more alternative fuel use as a result of the project. The anticipated impacts to the area where this project would be located are positive in terms of cleaner air and anticipated greenhouse gas emissions reductions.

As indicated in Table 1, with further detail in Table 2, Marina is not considered a high-risk community, as identified in Appendix A. The demographic data presented in this report indicates a higher concentration of a minority population, specifically Hispanic, as well as higher levels of poverty compared to California average and EJ threshold.

CHAPTER 5:
Acronyms

Air Quality Improvement Program (AQIP)

Air Resources Board (CARB)

Alternative and Renewable Fuel and Vehicle Technology Program (ARFVTP)

Anaerobic digester (AD)

Assembly Bill (AB)

California Code of Regulations (CCR)

California Environmental Quality Act (CEQA)

Carbon intensity (CI)

Environmental justice (EJ)

Environmental justice screening method (EJSM)

Grant funding opportunity (GFO)

Landfill gas (LFG)

Localized health impact (LHI)

Monterey Peninsula Landfill (MPL)

Monterey Regional Waste Management District (MRWMD)

Notice of proposed awards (NOPA)

Particulate matter (PM)

Renewable natural gas (RNG)

Standard cubic feet per minute (SCFM)

State Implementation Plan (SIP)

APPENDIX A:
Localized Health Impact Report Assessment Method

This LHI Report assesses the potential impacts to communities because of the projects proposed by the ARFVTP. This report is prepared under the *California Code of Regulations, Title 13, Motor Vehicles, Chapter 8.1 (CCR § 2343)*:

(6) Localized health impacts must be considered when selecting projects for funding. The funding agency must consider environmental justice consistent with state law and complete the following:

> (A) For each fiscal year, the funding agency must publish a staff report for review and comment by the public at least 30 calendar days prior to approval of projects. The report must analyze the aggregate locations of the funded projects, analyze the impacts in communities with the most significant exposure to air contaminants or localized air contaminants, or both, including, but not limited to, communities of minority populations or low-income populations, and identify agency outreach to community groups and other affected stakeholders.
>
> (B) Projects must be selected and approved for funding in a publicly noticed meeting.

This LHI Report is not intended to be a detailed environmental health impact analysis of proposed projects nor is it intended to substitute for the environmental review conducted during the California Environmental Quality Act (CEQA) review. This LHI Report includes staff's application of the Environmental Justice Screening Method (EJSM) to identify projects located in areas with social vulnerability indicators and the greatest exposure to air pollution and associated health risks.[5]

The EJSM was developed to identify low-income communities highly affected by air pollution for assessing the impacts of climate change regulations, specifically Assembly Bill 32 (Núñez, Chapter 488, Statutes of 2006), the California Global Warming Solutions Act of 2006. The EJSM integrates data on (1) exposure to air pollution, (2) cancer risk, (3) ozone concentration, (4) frequency of high ozone days, (5) race/ethnicity, (6) poverty level, (7) home ownership, (8) median household value, (9) educational attainment, and (10) sensitive populations (populations under 5 years of age or over 65 years of age).

5 California Air Resources Board (ARB). *Air Pollution and Environmental Justice, Integrating Indicators of Cumulative Impact and Socio-Economic Vulnerability Into Regulatory Decision-Making, 2010.* (Sacramento, California) Contract authors: Manuel Pastor Jr., Ph.D., Rachel Morello-Frosch, Ph.D., and James Sadd, Ph.D.

To determine high-risk communities, environmental justice (EJ) indicators for locations of the biofuel production facilities are compared to data from the U.S. Census Bureau or other public agency. Staff identifies high-risk communities by using a two-part standard. For a community to be considered high- risk, for this assessment, it must meet both Parts 1 and 2 of this standard.

Part 1:

- Communities located in nonattainment air basins for ozone, PM 2.5, or PM 10

Part 2:

- Communities having more than one of the following EJ indicators: (1) minority, (2) poverty, (3) unemployment and (4) high percentage of population under 5 years of age and over 65 years of age. The EJ indicators follow:
    - A minority subset represents more than 30 percent of a given city's population.
    - A city's poverty level exceeds California's poverty level.
    - A city's unemployment rate exceeds California's unemployment rate.
    - The percentage of people living in that city are younger than 5 years of age or older than 65 years of age is 20 percent higher than the average percentage of persons under 5 years of age or over 65 years of age for all of California.